

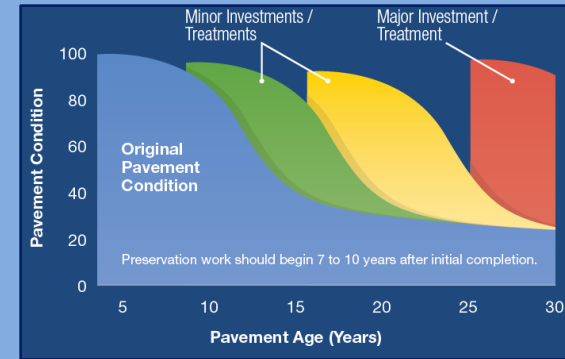
Today's Presentation

- History of Pavement Management
 - Established, Reputable, Proven Results
- Pavement Management Going Forward
 - Good Roads Cost Less
 - Region, Managing to Goals and Targets
- Efficiency Program
 - Management of other Assets
- Gas Tax
 - New Opportunities
 - Level 2 Roads
 - Long Term all Roads Managed Pro-actively

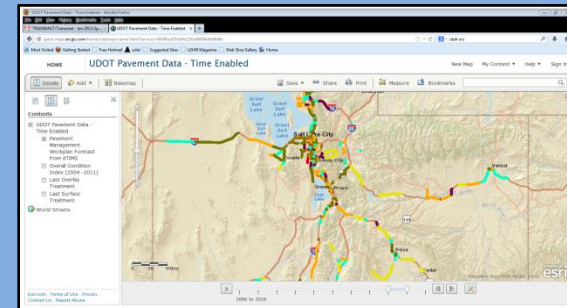
Pavement Management Time Line

"It Is A Journey"

- 1977 – “Good Roads Costs Less”
- 1992 – “A Plan for Every Section of Every Road”
- 1992 – Began Pavement Software Development (dTIMS)



Good Roads Costs Less



A Plan of Every Section of Every Road



Began dTIMS Development

Pavement Management Time Line

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- 1991 – Began dTIMS Development
- 2002 – DB, I-15, Olympics, Asset Management Division
- 2007 – Pavement Distress Survey - Contracted with Industry
- 2008 – Maintenance Management Levels



DB, I-15 > Olympics > Asset Management



Continuous Pavement Distress Surveys

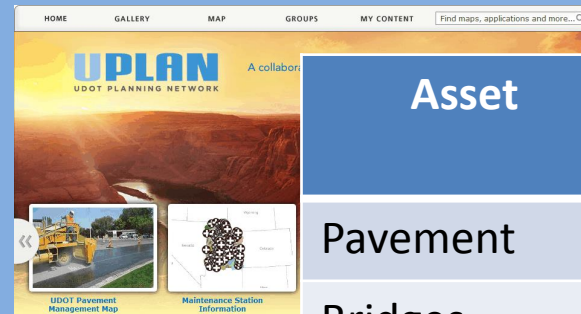


Maintenance Management Levels

Pavement Management Time Line

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- 2011 – Created UPlan
- 2012 – Inventoried all Above Ground Features
- 2016 – HB 362 Increased Gas Tax



UPlan

Tiers 1, 2, 3

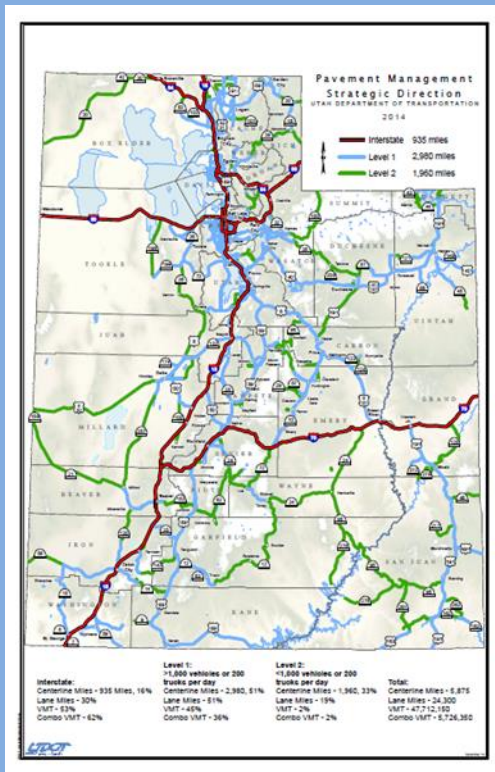


HB 362

Asset	Value
Pavement	\$24B
Bridges	\$ 5B
Pipe Culverts	\$ 1B*
Walls	\$ 3.4B
Barrier	\$450M
Signs	\$300M
Signal Systems	\$353M
Interstate Lighting	\$ TBD
Rumble Strips	\$ 6M
ATMS Devices	\$440M
ADA Ramps	\$ 20M

* Partial Inventory

UDOT Pavement Management Plan for Every Section of Every Road



- Proactive Manage of all Pavements
- Maintenance Management
 - Interstate, Level 1, Level 2
- Pavement Sections – 1,446
 - Ea. has a different History, Condition, Strategy
- Project Optimization
 - Greatest Benefit – Lowest Cost, & Risk
 - Reconstruct, Preservation, etc.
- Asset Management Steering Committee

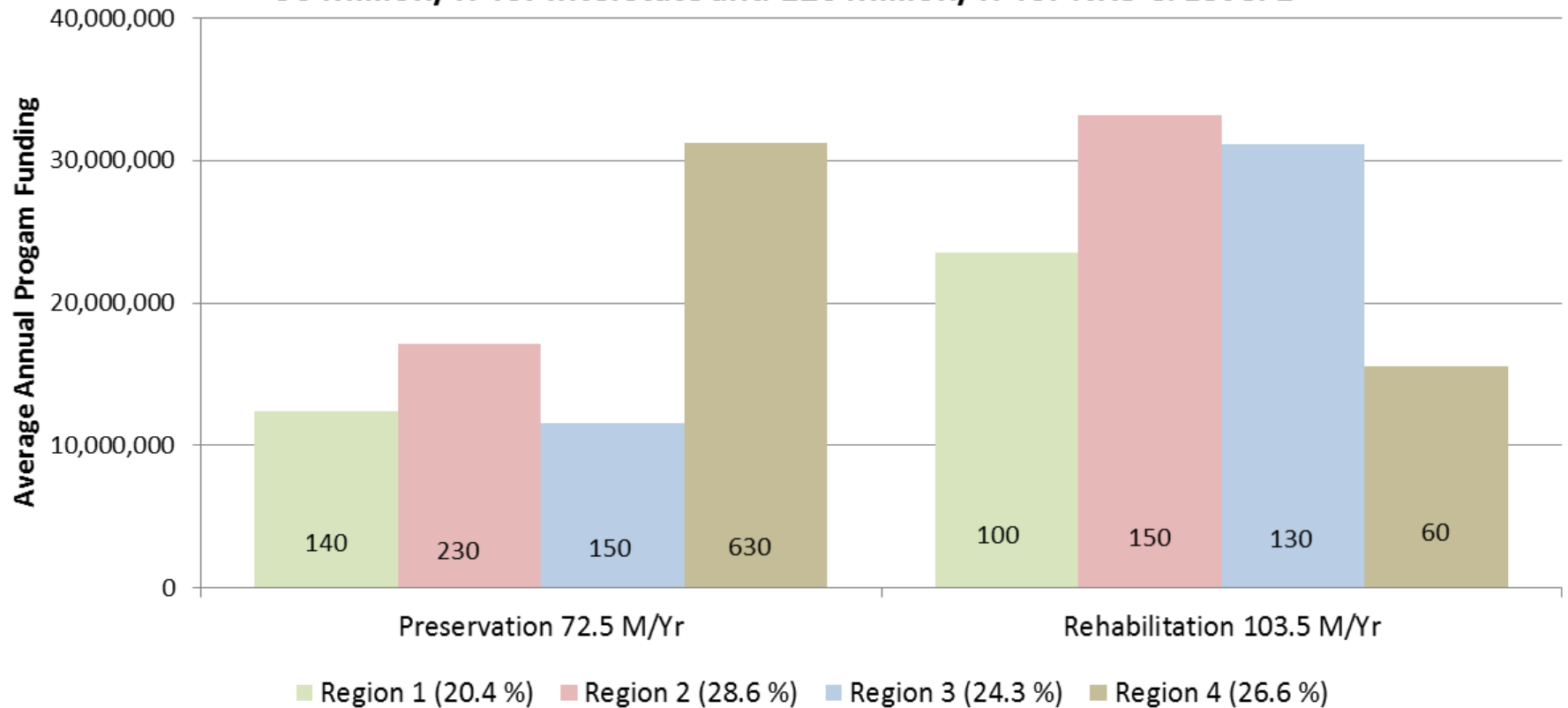
[Pavement Management](#)

Pavement Management Going Forward

- Central
 - Model
 - Distribute Funding to Region
 - Determine Required Surface Areas
 - Recommend Projects by Road Type (Interstate, NHS, etc.)
 - Recommend Projects by Preservation, Rehabilitation, & Major Rehabilitation
 - Forecast Future Conditions
- Region
 - Managing/Reporting on Targets and Goals
 - Proposed Pavement Projects
 - Proposed Efficiencies Projects
 - Report on Surface Areas Completed
 - Report on Region Pavement Forecast Trends
 - Report on Efficiency Projects Accomplished
 - ***Forecast Future Pavement Conditions (Evolution)***

10 Year Average Region Allocation by Program

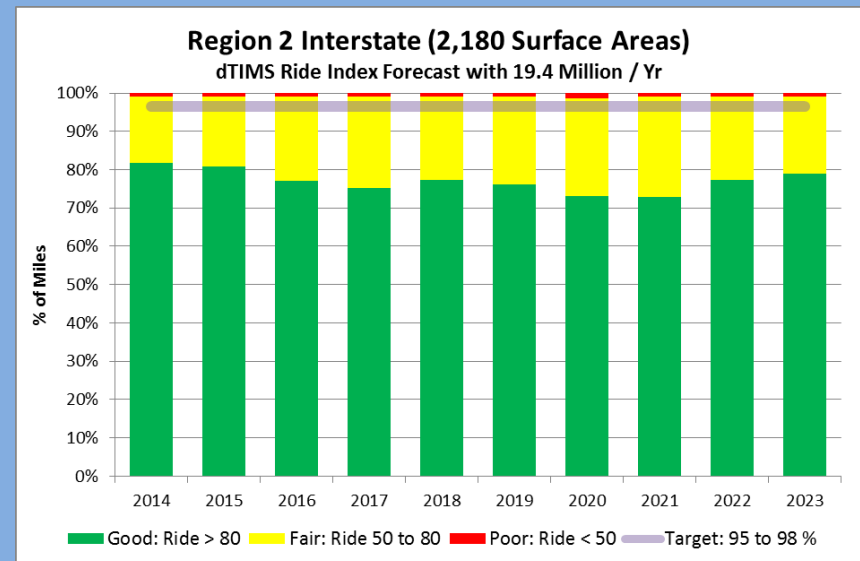
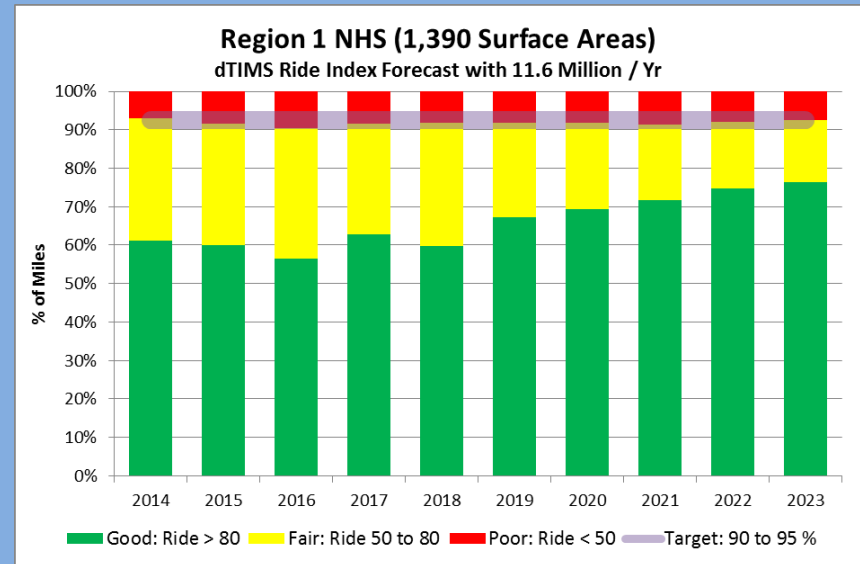
from dTIMS with
50 Million/Yr for Interstate and 126 Million/Yr for NHS & Level 1



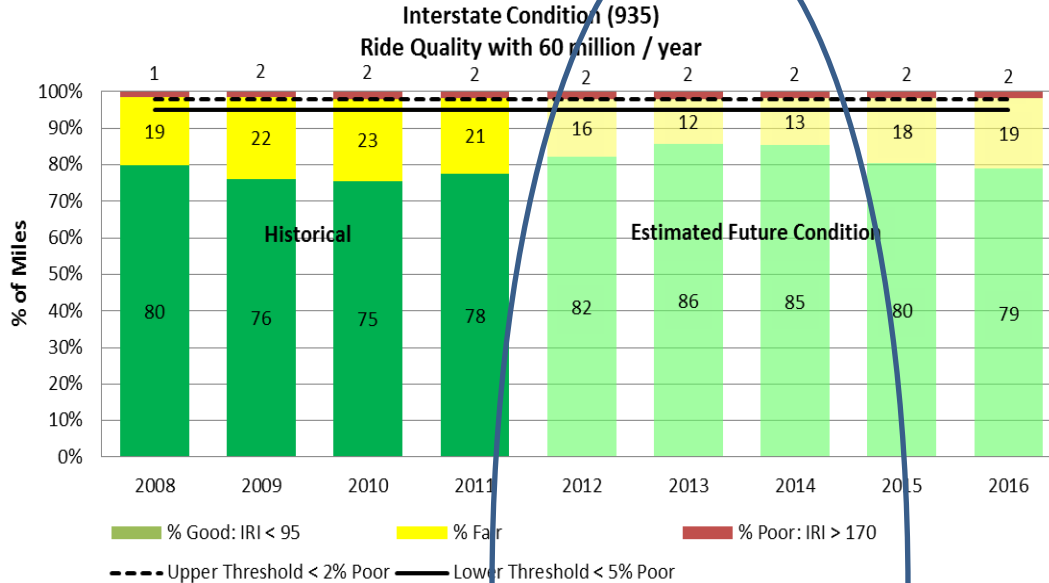
Data Labels show Average Surface Areas

Region Pavement Forecasts

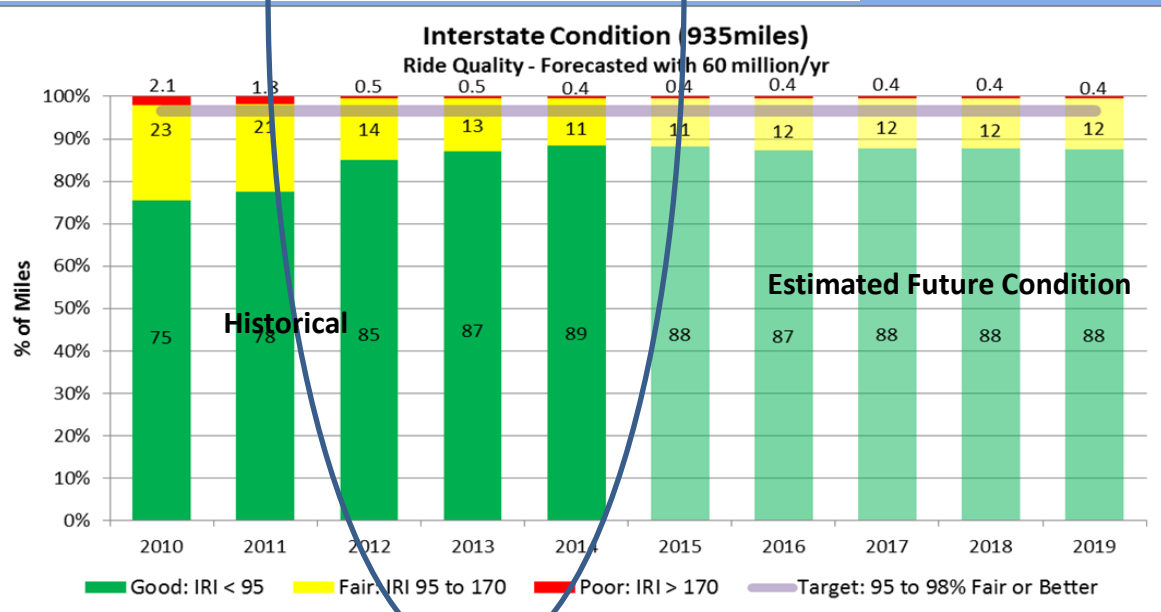
- Each Region will Manage Pavement IRI (Smoothness):
 - Interstate
 - National Highway System (NHS)
 - non NHS
 - Level 2 (Low Volume Roads)



Interstate Comparison 2012 - 2014



- 4% of Interstate SA transferred from Fair/Poor to Good
- Or 290 SA
- Equivalent to 2 - 4 lane 29 mile roadways



2012 – 2014 Surface Areas Opportunity Costs

- 3 Year Period
 - Dtims, 4,385 S.A.
 - Regions
 - Original Program 4,385 S.A.
 - Efficiencies Additional 2652 S.A
 - TIF Projects 442 S.A.
 - Total S.A. 7460 S.A.
 - Percentage Increase 70.1%
- 290 Interstate S.A. improved from Fair/Poor to Good (4%)
- Transfer \$10M from Interstate Pavement to Bridge

Pavement Surface Areas												
	Central Programming	Region Program					Capacity Program	Surface Areas (Total, % Increase)		Change in Pavement Condition		
Year	Recommended Dtims	Preservation	Rehabilitation Good Bids, Snow \$ (No Data)?	August Redistribution (No Data)	Subtotal	Transportation Investment Fund	Total Surface Areas	% Surface Area Increase from Dtims Recommendation	Interstate	NHS	Level 2	
2012	1,369.9	1,195.0	1,091.3	un kn own	un kn own	2,286.2	52.2	2,338.4	70.7%	88.5A (14%) Improved to Good Category	480.5A (7%) Improved to Good Category	240.5A (5%) Decreased to Poor Category
2013	1,778.0	1,024.9	1,538.0	*	*	2,562.9	270.0	2,832.9	59.3%			
2014	1,237.2	1,065.1	1,122.3	*	*	2,187.4	401.9	2,289.3	85.0%			
2015*												
Subtotal - Total Surface Areas	4,385.2	3,285.0	3,751.6			7,036.6	424.1	7,460.6	70.1%			
2016	1,590.0						72.7					
2017	1,590.0						67.8					
2018	1,590.0						81.0					
Subtotal - Total Surface Areas	4,770.0						221.5					

* 2015 Season In Progress, Surface Areas Not part of Calculations

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Efficiency Program

- Regions
 - Pavement - Completed required SA, Maintain Targets
 - Submit for Approval List of Potential Projects
 - Examples: ATMS, Signs, Culverts, Signals, Curb & Gutter, etc.
 - Report on:
 - Pavement Program – SA, Targets, Roadway Type (NHS etc.)
 - Efficiency Projects Completed

House Bill 362 Transportation Infrastructure Funding

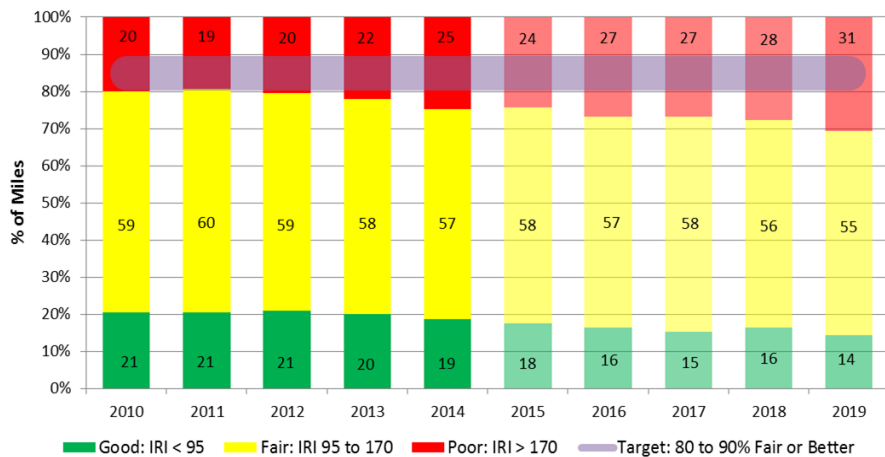
- State Gas Tax
 - Today
 - 24.50 - cents-per-gallon
 - January 1, 2016
 - 29.50 – cents-per-gallon
 - 4.9 -cent increase
- Estimate Additional Revenue – State Fiscal Year
 - 2016
 - \$17.14M
 - 2017
 - \$55M

Reported to Legislators

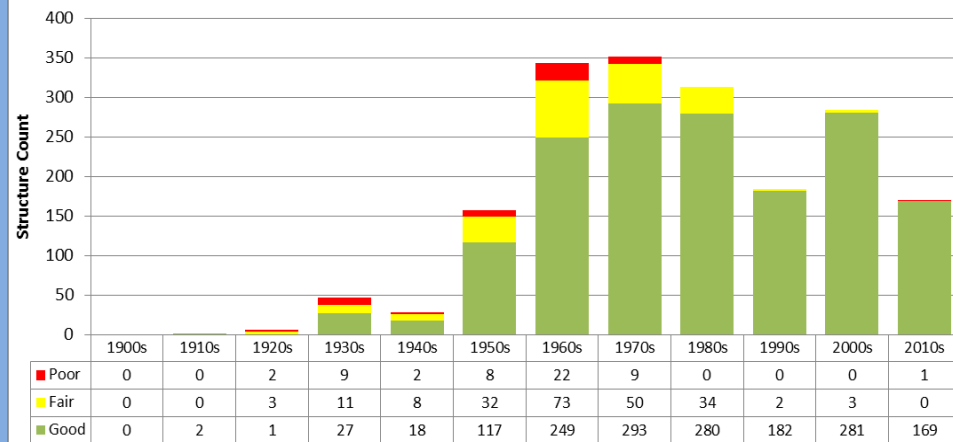
State of Level 2 Roads

State of Structures

Level 2 System Condition (1,970 miles)
Ride Quality - Forecasted with 10 million/yr



Age Distribution of State Bridges



Triage* - Level 2 Low Volume Roads

- Insufficient Resources
- Ration Preservation Treatment
- Determine Order and Priority
- Created Level 2 Roads

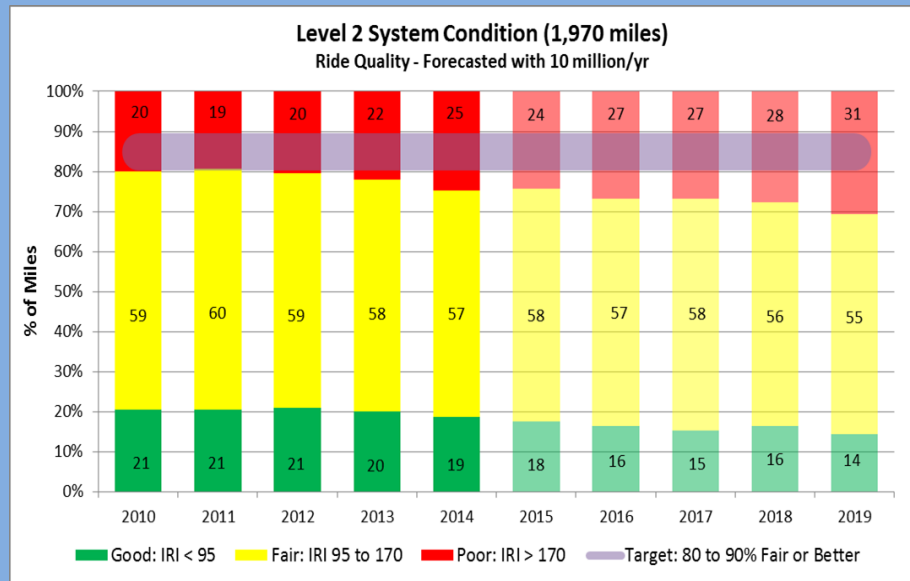


*French verb meaning separate, select

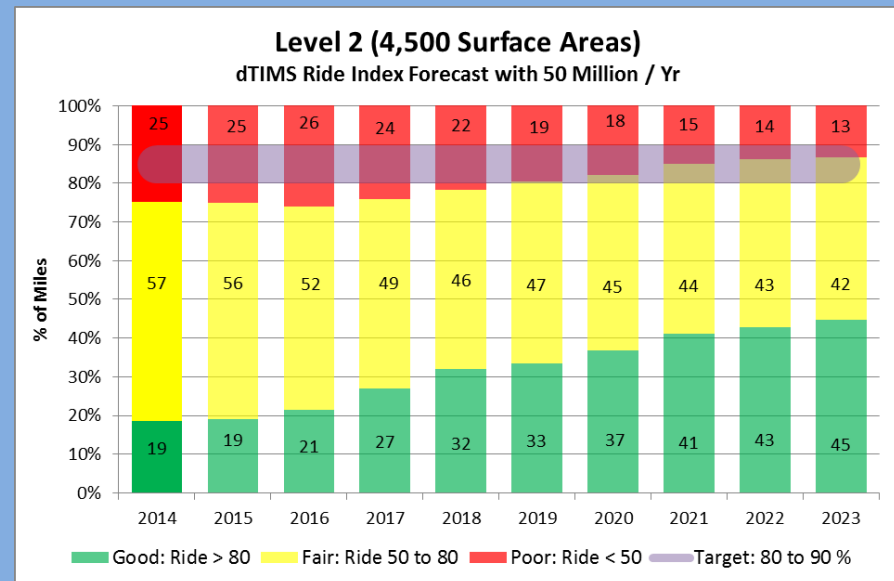
Low Volume Roads

Level 2

\$10M Funding

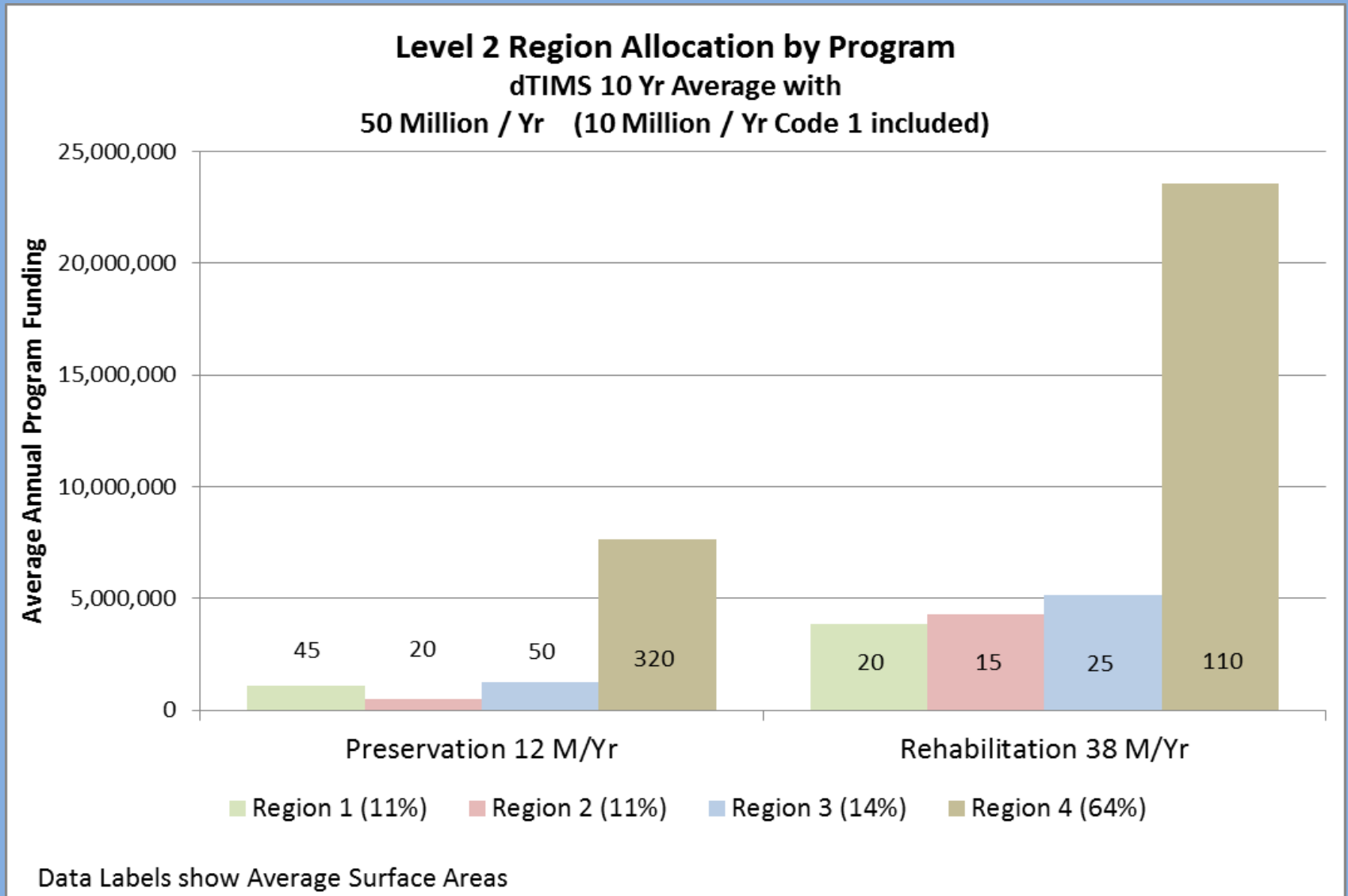


\$50M Funding



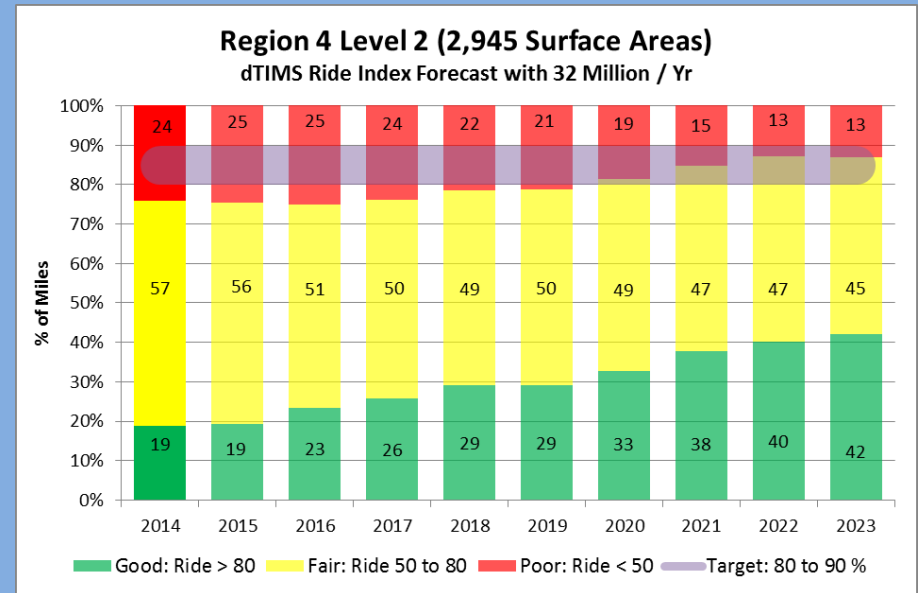
Low Volume Roads

Level 2



Region Low Volume - Level 2 Pavement Forecasts

- Each Region will Manage to SA, Pavement Smoothness and Overall Condition



Goals & Recommendation

- Track/Report on Projects, Goals and Trends
- Sustainable Pavement/Bridge Programs
- Elimination of a Level 2
 - Proactive Management of All Roads and Structures
- Additional Revenue (Estimated) – State Fiscal Year
 - 2016
 - \$17.14M (Level 2 Pavement)
 - 2017
 - \$40M (Level 2 Pavement)
 - \$15M Bridges